

04/17/14 Agenda:

- Review Homework
 - Worksheet 1 - Surface Area of Prisms
- Section 12.4 day 1 - Volume of Prisms
- Homework
 - Worksheet 2 - Volume of Prisms

Goal: Find the Volume of a prism.

Definitions:

Volume: The number of cubic units in the interior of a 3-D shape.

$$V_{Prism} = B \cdot h$$

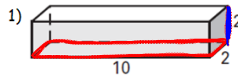
$$B = Area_{Base}$$

This changes with the shape of the base.

$$h = height$$

The distance between the bases.

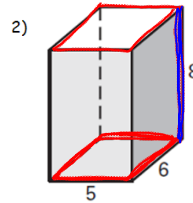
Find the volume of the following shapes:



$$B = 10 \cdot 2 = 20 \text{ units}^2$$

$$h = 2$$

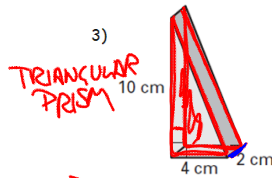
$$V = B \cdot h = 20 \text{ units}^2 \cdot 2 \text{ units} = 40 \text{ units}^3$$



$$B = 5 \cdot 6 = 30 \text{ units}^2$$

$$h = 8$$

$$V = 30 \text{ units}^2 \cdot 8 \text{ units} = 240 \text{ units}^3$$



$$B = \frac{1}{2} b \cdot h$$

$$= \frac{1}{2} \cdot 4 \cdot 10$$

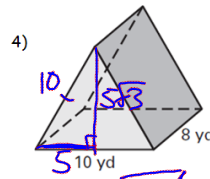
$$= 20 \text{ cm}^2$$

$$h = 2 \text{ cm}$$

$$V = B \cdot h$$

$$= 20 \cdot 2$$

$$= 40 \text{ cm}^3$$



$$B = \frac{s^2 \sqrt{3}}{4}$$

$$= \frac{10^2 \sqrt{3}}{4} = 25 \sqrt{3}$$

$$V = B \cdot h$$

$$= 25 \sqrt{3} \cdot 8$$

$$= 200 \sqrt{3} \text{ yd}^3$$

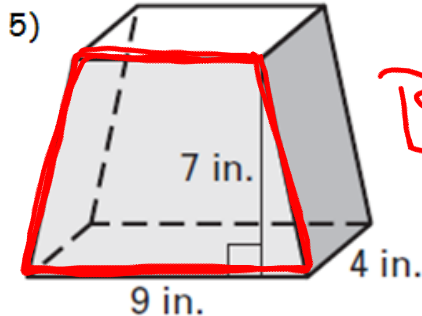
Section 12.2 day 1 - Volume of Prisms

Targets 11A

April 17, 2014

$$A_{\square} = \frac{1}{2}h(b_1 + b_2)$$

$$A_{\text{REG POLY}} = \frac{1}{2}a \cdot n \cdot s$$



$B =$

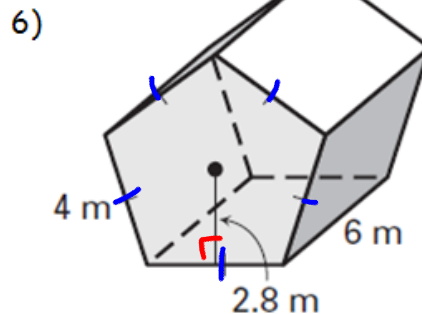
$$A = \frac{1}{2} \cdot 7(9 + 6)$$

$$= \frac{1}{2} \cdot 7 \cdot (15)$$

$$= 52.5 \text{ in}^2$$

$$h = 4$$

$$V = Bh = 210 \text{ in}^3$$



$$B = \frac{1}{2}a \cdot n \cdot s$$

$$= \frac{1}{2} \cdot 2.8 \cdot 5 \cdot 4$$

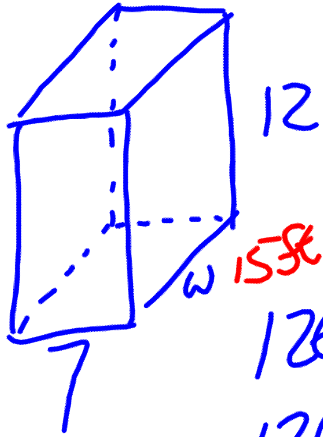
$$= 28 \text{ m}^2$$

$$h = 6 \text{ m}$$

$$V = 28 \text{ m}^2 \cdot 6 \text{ m}$$

$$168 \text{ m}^3$$

16



$$1260 \text{ ft}^3$$

$$V = L \cdot W \cdot H$$

$L = \text{LENGTH}$
 $W = \text{WIDTH}$
 $H = \text{HEIGHT}$

$$1260 = 7 \cdot 12 \cdot w$$

$$1260 = 84w$$

$$15 \text{ ft} = w$$